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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LE, DAVID D

ART UNIT

PAPER NUMBER

3681

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/034,180

Applicant(s)

PHELAN ET AL.

Examiner

David D. Le

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,21,22 and 26-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-20 and 23-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1 and 4 .                      6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This is the first Office action on the merits of Application No. 10/034,180, filed 28 December 2001. Claims 1-28 are pending.

#### **Documents**

1. The following documents have been received and filed as part of the patent application:
  - Declaration and Power of Attorney, received on 02/28/02
  - Supplemental Information Disclosure Statement, received on 02/03/03

#### ***Election/Restrictions***

2. This application contains claims directed to the following patentably distinct species of the claimed invention:

- Species A: Figs. 1-4, and 11 (Electric)
- Species B: Figs. 1-2, 5-8, and 11 (Hydraulic)
- Species C: Figs. 1-2, 9-10, and 11 (Pneumatic)

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1 and 14 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

3. During a telephone conversation with the applicant's representative, David W. Okey, on 18 March 2003 a provisional election was made with traverse to prosecute the invention of Species B (Hydraulic), claims 1-3, 6-20, and 23-25. Affirmation of this election must be made by applicant in replying to this Office action. Claims 4-5, 21-22, and 26-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### *Oath/Declaration*

5. The oath or declaration is defective because it does not identify the citizenship of each inventor. A new oath or declaration in compliance with 37 CFR 1.67(a) is required. See MPEP §§ 602.01 and 602.02.

#### *Drawings*

6. The drawings are objected to because:

- According to the specification page 9, line 15, the reference number 67 is a current sensor. However, Fig. 3, reference number 67 is pointing at a gear of a transfer assembly 50.
- Fig. 9, gear “73” should be --173--, according to the present specification, page 14, line 21.
- Fig. 9, output shaft “169” of the transfer assembly 165 should be --168--, according to the present specification, page 14, line 24.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

*Specification*

7. The disclosure is objected to because of the following informalities:

- Page 2, lines 17-20 of the brief summary states “wherein the first output shaft and transfer assembly receive work from the differential, and the second transfer assembly and output shaft receive work from the torque difference source.” It appears inaccurate because, based on the detailed description (i.e. page 6, lines 4-22), the second output shaft and transfer assembly receive work from both the differential and the torque difference source.
- Page 11, line 4, the pole windings “53” should be --55--.
- Page 11, line 22, gear “131” should be --124--.
- Page 12, line 14, the “)” should be deleted.
- Page 12, line 21, valve “133” should be --138--.
- Page 13, line 14, vanes “131” should be --132--.
- Page 13, line 15, ports “139” should be --135--.
- Page 16, line 2, “the hydraulic embodiment” should be --the pneumatic embodiment--.

Appropriate correction is required.

8. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 23 and 24 recite the phrases “do work” and “work done” in the claims. The present specification does not provide clear definitions for those particular phrases.

***Claim Objections***

9. Claim 24 is objected to because of the following informalities: Claim 24 recites “the torque controller of Claim 22” should be --the torque controller of Claim 23--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the amount of work from the second transfer assembly and output shaft to be equal to or greater than the amount of work from the first transfer assembly, does not reasonably provide enablement for the amount of work from the second transfer assembly and output shaft to be less than the amount of work from the first transfer assembly. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with this claim.

According to the present specification (i.e. page 6, lines 4-22), it would be true if claim 2 recited as wherein the amount of work from the second transfer assembly is less than or equal to the amount of work from the first transfer assembly.

It appears that the applicant does not consider the work that comes from the differential as part of the amount of work from the second transfer assembly and output shaft.

For the purpose of examining the merit of claim 2, the Examiner interprets the recitation of claim 2, in light of the present specification (page 6, lines 4-22) as follows:

The torque controller of Claim 1, wherein the amount of work from the second transfer assembly and output shaft is greater than or equal to the amount of work from the first transfer assembly.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1-3, 6-8, and 23-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claim 1:**

Claim 1, line 4, recites the limitation "a transfer assembly" and also claim 1, line 5, recites "at least a first and a second transfer assembly" in the claim. It appears that the first mentioned transfer assembly is the same as the latter mentioned "at least a first and a second transfer assembly". If this were true, then it would be a double inclusion of the same elements. If these are the same elements, applicant should modify the claim in order to relate the transfer assemblies of lines 4 and 5.



**Claims 23 and 24:**

Claims 23 and 24 recite the phrases "work done" and "do work" in the claims. It is unclear exactly what the applicant is referring to. It appears that the phrase "do work" is referring as transferring work, and the phrase "work done" is referring to as receiving work.

***Claim Rejections - 35 USC § 102***

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. Claims 1-3, and 9-13 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 4,776,235 to Gleasman et al.

**Claims 1-3, and 9-13:**

Gleasman (Fig. 1, column 2, line 50 – column 5, line 61) discloses a no-slip, imposed differential comprising:

- a differential (14);
- a first and a second output shaft (16 and 17), each output shaft having an interface (gear 26 or 27) to a transfer assembly (gear 32 or 33);
- a torque difference source (20) connected to each transfer assembly;

- wherein the first output shaft and transfer assembly receive work from the differential, and the second transfer assembly and output shaft receive work from the torque difference source, (i.e. column 4, line 15 – column 5, line 6);
- wherein the amount of work from the second transfer assembly and output shaft is greater than or equal to the amount of work from the first transfer assembly, (i.e. column 4, line 15 – column 5, line 6);
- wherein the torque difference source is driven by a hydraulic system, which inherently comprises a pump, (i.e. column 3, lines 40-48).

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 6-8, 14-20, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gleasman et al. in view of U. S. Patent No. 6,520,880 to Fukushima et al.

**Claims 6-8, 14-20, and 23-25:**

Gleasman discloses all elements and limitations as set forth in claims 1-3 and 9-13 above.

Regarding claims 6-8, 14-20, and 23-25, Gleasman lacks:

- a means for controlling and monitoring power;
- a means for measuring power in the first and second shafts;
- an inner rotor;
- an outer rotor.

Fukushima (i.e. Figs. 1-2; column 1, line 58 – column 6, line 5) discloses a traction distribution device comprising:

- a means (16) for controlling and monitoring power;
- a means for measuring power in the first and second shafts, (i.e. column 5, lines 50-53);
- a hydraulic pump (30);
- a motor (20);
- an inner rotor (22);
- an outer rotor (23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gleasman to include a motor having an inner and an outer rotors, which is powered by a hydraulic pump, and a controller for controlling and monitoring the power, based on the input of various sensors, in view of Fukushima, in order to effectively and controllably optimize the traction of a motor vehicle.

*Conclusion*


18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


- Shibahata et al. (U. S. Patent No. 5,518,463) teaches a torque distributing mechanism as shown in Fig. 3.
- Salzler (U. S. Patent No. 5,989,142) teaches a planetary steering differential shown in Fig. 1.
- Fujie et al. (U. S. Patent No. 6,432,014) teaches a traction distributing apparatus for motor vehicle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 703-305-3690. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A Marmor can be reached on 703-308-0830. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

  
ddl  
March 20, 2003

  
**CHARLES A. MARMOR**  
SUPERVISORY PATENT EXAMINER  
ART UNIT 3681